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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 1052006

Application Number: 09/018,104

Filing Date: February 3, 1998

Appellant(s): Hobart, James L.

Jonathan O. OWens  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed October 7, 2005.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-4, 6-14, 17-24, and 41-52. Claim 5 having been cancelled by omission from the response submitted December 1, 2003, and reintroduced with the same claim number in the response filed July 19, 2004 and which was subsequently renumbered in the resulting office action mailed April 7, 2005 (see page 3 of that office action).

**(4) *Status of Amendments After Final***

The after final filed June 9, 2005 did not place the application in condition for allowance.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is substantially correct.

Issue (4) also includes the rejection of claim 52 (renumbered claim 5) under 35 USC 103 as obvious over Dew in combination with Belkin et al. and Anderson et al. and further in view of Assa et al.

**(7) *Grouping of Claims***

The rejection of claims 2-4, 6-10, 12-14, 18-24, 42-49, and 52 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof.

Appellant's brief includes a statement that claims 1, 11, 17, 41, 50, and 51 do not stand or fall together and provides reasons as to their separate patentability.

**(8) *ClaimsAppealed***

A substantially correct copy of appealed claim 52 appears on page 1 of the Appendix to the appellant's brief. The minor errors are as follows: the claim is numbered 5.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

Number (Title)	Name	Date
4,672,969	Dew	June 16, 1987
5,098,426	Sklar et al	March 24, 1992
5,125,922	Dwyer et al	June 30, 1992
5,620,435	Belkin et al	April 15, 1997
5,938,657	Assa et al	August 17, 1999
Selective Photothermolysis: Precise Microsurgery by Selective Absorption of Pulsed Radiation	Anderson et al	April 29, 1983

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 11, 17 and 41 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dwyer et al.

Dwyer et al teach a dual laser system for producing an output, as most clearly shown in Figure 3 of and the attendant disclosure. Figure 3 shows two lasers (35 and 36) which are controlled by a wavelength selecting switch (38) and whose outputs are combined at beam splitter (37). This is stated at column 4, lines 12-22 of Dwyer et al. It is noted that the pulses produced by the lasers of Dwyer et al must have both a power and duration else they would not exist.

Claims 1-3, 8, 41, 43, 44 and 47-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dew ('969) in combination with Anderson et al, and Belkin et al. Dew ('969) teaches the use of a carbon dioxide laser operating at 10.6 microns as a cutting laser in a laser system comprised of multiple lasers and teaches that the power of a pulse determines the amount of heat deposited in the tissue and that the same type of laser can be used for cutting and coagulating. Belkin et al teach that the carbon dioxide lasers operating at 10.6 microns can be used to heat rather than cut tissue. Anderson et al teach the way parameters such as absorptivity, spot size, and pulse width interrelate to control the amount of energy absorbed by tissue. It would have been obvious to the artisan of ordinary skill to use a carbon dioxide laser to coagulate in the device of Dew ('969), since this laser can be configured to coagulate as taught by Belkin et al, and since this would render the device more versatile, at no extra cost; and to employ the particular laser parameters claimed since these provide no unexpected results, and are within the scope of one having ordinary skill in the art as shown by Anderson et al; to employ an articulated arm with refocusing convex lenses since these are notorious in the art for transporting infrared radiation such as that from Carbon dioxide lasers, official notice of which has already

taken; and to use a galvanometer to alternate the beams, since these are notorious for moving optical components official notice which has already been taken thus producing a device such as claimed.

Claims 1,6, 7, 11-13, 17, 18, 41 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sklar et al in combination with Dwyer et al. Sklar et al teach the use of a graphic user interface for use with multiple lasers and teach that it can be used with any type of laser for any type of surgery and that the depth of laser action; energy per pulse; and repetition rate can be input and displayed. Dwyer et al provide a dual laser system with controllable spot size. It would have been obvious to the artisan of ordinary skill to employ the interface of Sklar et al in the device of Dwyer et al, since Dwyer et al provide no control interface for the device made up of two separate lasers or to employ the dual laser source of Dwyer et al in the system of Sklar et al, since Sklar et al provide no particular laser source, thus producing a device such as claimed.

Claims 4, 9, 10, 42 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dew ('969) in combination with Anderson et al and Belkin et al as applied to claims 1-3, 8, 41, 43, 44, and 47-49 are above, and further in combination with Assa et al. Assa et al teach a scanning hand piece and the equivalence of carbon dioxide and Erbium YAG lasers. Thus it would have been obvious to the artisan of ordinary skill to employ a scanning hand piece as taught by Assa et al, since this allows more consistency of treatment and to employ an erbium laser, since these are equivalent to the carbon dioxide laser, thus producing a device such as claimed.

Claims 14 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dew ('969) in combination with Anderson et al and Belkin et al as applied to claims 1-3, 8, 41, 43, 44

and 47-49 above, and further in combination with Sklar et al. Sklar et al teach a user interface for a multi-laser system. It would have been obvious to the artisan of ordinary skill to employ the interface of Sklar et al, since no interface is taught and this would allow the surgical treatment to be preprogrammed, as taught by Sklar et al, thus producing a device such as claimed.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dew ('969) in combination with Anderson et al, Belkin et al, and Sklar et al as applied to claim 14 and 19-22 above, and further in combination with Assa et al. The teachings of Assa et al and the motivations for combination thereof are essentially those already iterated above. Thus it would have been obvious to the artisan of ordinary skill to combine those old and well known teachings to produce a device such as claimed.

***(11) Response to Argument***

**A. Claims 1, 11, and 41 are properly rejected under 32 USC 102 (b)as being anticipated by Dwyer et al**

Appellants argue that the examiner's rejection of claims 1, 11, and 41 is predicated on an overly broad interpretation of the teachings of Dwyer. More particularly, applicant asserts that it is not feasible to alternate between pulses or sets of pulses with an apparatus such as taught by Dwyer et al in the time frame required to perform a coagulation or ablation operation on a target area. Appellants' argument has several flaws. Firstly there is no time frame recited in any of the claims. Secondly, as already mentioned in the final office action mailed April 7, 2005 at page 2, the second paragraph, which is a summary of the extensive discussion on this point starting at page 2 second paragraph and continuing through the last full paragraph on page 3 in the final office action mailed May 14, 2004, Dwyer et al. specifically teach that the device can both cut (ablate) and coagulate and teach that the switching between the two functions can be done

quickly (see column 3, lines 51 to 55). It is further noted, the Dwyer et al. additionally claim performing a coagulation and cutting operation (see claim 1 thereof). Appellants' unsupported assertion that the device of Dwyer et al. cannot perform as claimed in the Dwyer et al. patent is insufficient to overcome the presumption of validity afforded a US patent. Continuing, appellants argue that the medical laser system of Dwyer et al. can not operate to switch between laser sources on a pulse timescale. However, the nowhere in claims is a pulse timescale recited and nowhere is there a recitation in the claims that the control system, must switch between lasers at each pulse - the claims only specify that some pulses come from one laser and some pulses come from the other laser.

Next, appellants argue that the claims have been amended to recite an apparatus which delivers a series of laser pulses having *a wavelength*, noting that the examiner has argued that the comprising type claim language allows more than one wavelength to exist in the laser output, and that the originally filed disclosure does not support language in the claim requiring that both lasers produce pulses of the same wavelength. Appellants' counter that the existence of more than one wavelength of the laser output, "does not preclude or render irrelevant the limitation of laser pulses from more than one laser source having the wavelength, (viz. The same wavelength)". To bolster this assertion, appellants argue that "it is a fact of physics that lasers of the 'same kind' by definition produce laser light of the same wavelength". However, this clearly not the case as Dwyer et al. used to lasers of the same kind to produce different wavelengths. This fact has already been brought to appellants' attention in the office action, mailed September 17, 2001, at page 4, second full paragraph therein. This is discussed in Dwyer et al. at column 3, lines 28-39, and at column 4, lines 12-22, the latter disclosure be related to the embodiment wherein two lasers have their beams combined to form a single output. It is further noted that

nowhere in the disclosure or the claims is there a recitation of usage of lasers of the "same kind". Appellants' next statement that "[L]aser light is a property of lasing material and lasers made from the same material will lase with the same wavelength or wavelengths" is clearly incorrect, in view of the disclosure of Dwyer et al. at column 3, wherein it is clearly disclosed that "the same YAG laser" is operated at two different wavelengths. With regard to appellants' assertion that the disclosure does support two lasers, which produce the very same wavelength, the examiner notes that there is nothing in the specification that requires the production of the same wavelength beam by both lasers. Appellants' appear to be relying on the fact that two erbium lasers are disclosed, in combination with the manifestly incorrect assertion (disproved above) that the "same kind" of laser must produce the same wavelength, to provide support for this purported claim limitation. However, appellants have already conceded in the first sentence on page 8 of the instant brief that the claim language can be interpreted such that "the laser light can include more than one wavelength". Thus the examiner contends that he has not interpreted Dwyer et al. overly broadly, but that appellants' have interpreted to claims overly narrowly.

**B. Claims 1-3, 8, 43, 44, and 47-51 are properly rejected under 35 USC 103 as obvious over Dew in combination with Belkin et al and Anderson et al.**

In arguing this rejection appellants' merely state, the teachings of each of the references in isolation and in no way discuss the combination the examiner has set forth in the rejection nor the motivation for combination nor the resultant system or method that would be produced thereby. Appellants' merely argue that none of the references, nor their combination produces the claimed device or method set forth in the dependent claims. Appellants' fail to address the fact that Dew discloses the use of the CO<sub>2</sub> laser and that the action of the laser wavelength all of the tissue is described as quote intensely absorbed "see column 2 lines 62 at column 2, lines 60-

65. Appellants further fail to recognize the fact that Dew expressly discloses that CO<sub>2</sub> lasers are used both to vaporize and coagulate tissue (see for example column 3, lines 8-11). Dew also teaches, at column 4, lines 26-31, that an Nd:YAG laser can be operated at either a primary wavelength of 1.06 micrometers or a secondary wavelength of 1.32 micrometers. Appellant fails to address the fact to that this laser is used to produce two different wavelengths, once again, in contradiction to appellants' express statement that the "same kind" laser must produce the same wavelength. Still further, appellants fail to address the fact that Dew discloses that the laser energy is used to produce a temperature of between 60 and 70°C this is disclosed in Dew at column 5 lines 48-54, and corresponds to the coagulation temperature discussed in appellants' originally filed specification at page 12, lines 9 to 12 ("raising the temperature of skin by 30 degrees Celsius will result in the temperature 67degrees, sufficient to cause coagulation").

Appellants also fail to address the fact that Belkin et al. teach the use of a 10.6 micron wavelength laser to produce a tissue temperature of 45-60° Celsius, instead appellants' merely state that Belkin does not teach the use of two lasers, a teaching which is already provided by Dew. With regard to Anderson et al., appellants' once again, do not discuss the actual teachings of Anderson et al. - i.e. that one of ordinary skill of the art is aware of the way in which parameters such as absorptivity, spot size, and pulse width interrelate to control the amount of energy absorbed by tissue. See Anderson et al, page 524, the last paragraph thereon, through 526, the paragraph spanning columns 1 and 2. Instead, appellants' merely state that Anderson et al. do not teach the use of two lasers. Also appellants fail to address the motivations for combination and thus the rejection remains unrebutted by convincing argument. It is noted with regard to claims 50 and 51, appellants' note that the combination does not include a galvanometer to combine the series of pulses. However, the examiner has already taken, official

notice, for example in the office action mailed September 17, 2001, that galvanometers are well known for providing this function, and applicant has to date failed to challenge that official notice. With regard to the defendant claims these are all merely argued as allowable based on their dependency on the independent claims.

**C. Claims 1, 6, 7, 11-13, 17, 18, 41, and 44-46 are properly rejected under 35 USC 103 as obvious over Sklar et al in combination with Dwyer et al.**

With regard to the combination of Sklar et al. of Dwyer et al., appellants argue that Sklar et al. merely teaches a system for accurately controlling and positioning laser sources. Applicant appears to argue that because the thrust of Sklar et al. is the image acquisition system that the teachings therein regarding the use of the system for surgery, which requires delivery of the laser to the tissue, must be ignored. This argument is not convincing. It is further noted that appellants' recognize the disclosure in Sklar et al. at column 16, lines 60 to 68, that a combination of lasers may be used in the device and method. With regard to Dwyer et al., appellant makes the same arguments as above - that Dwyer et al. teach the use of two wavelengths (which is not precluded by the claims at bar, as admitted by appellants' in the first sentence on page 8 of the instant brief), and that the device of Dwyer et al. cannot be operated all the time scale required to perform a coagulation or ablation operation, which argument as already been dealt with extensively in section A. However, appellants do not address the teachings of Sklar et al. and Dwyer et al. set forth in the rejection, nor the examiner's motivation for combination and thus the rejection remains unrebutted by convincing argument.

**D. Claims 4, 9, 10, 42, and 52 are properly rejected under 35 USC 103 as obvious over Dew in combination with Belkin et al and Anderson et al. and further in combination with Assa et al.**

With regard to the combination involving Assa et al., applicant argues that Assa et al.

teach an apparatus for delivering energy with a continuous output, and thus cannot be combined with the other references. This argument is not well founded, as can clearly be seen from the disclosure of Assa et al. at column 5, lines 41-47, Assa et al. contemplate the use of the controller was a pulsed laser or continuous laser. Appellants further argue that "the inordinate number of combined references is inconsistent with establishing a *prima facie* case of obviousness". However, this argument is not convincing, as it is a well-established point of law that the number of references is not have any bearing on the propriety of the rejection. Theoretically such could be infinite (Ex Parte Fine 1927 C.D. 84). The remainder appellants' arguments are drawn to the deficiency of Dew, Belkin et al., and Anderson et al. and have been dealt with previously, the examiner will not burden the record by repeating the enumeration of the deficiencies of such arguments.

**E. Claims 14 and 19-22 are properly rejected under 35 USC 103 as obvious over Dew in combination with Belkin et al, and Anderson et al. and futher in combination with Sklar et al.**

With regard to claims 14 and 19-22 appellants' merely argued patentability thereof based on the insufficiency of the rejection of the claims upon which these claims depend. As set forth above, the rejections thereof are not deficient, and therefore claims 14 and 19-22 are similarly unpatentable.

**F. Claims 23 and 24 are properly rejected under 35 USC 103 as obvious over Dew in combination with Belkin et al, Anderson et al., and Assa et al. and futher in combination with Sklar et al.**

With regard to claims 23 and 24 appellants' merely argued patentability thereof based on the insufficiency of the rejection of the claims upon which these claims depend. As set forth above, the rejections thereof are not deficient, and therefore claims 23 and 24 are similarly

unpatentable.

**(12) Conclusion**

It is the examiner's firm opinion that the appealed claims are not patentable for the reasons argued above. Appellant has presented no convincing argument as to why the rejections set forth above are not obvious or proper. Therefore, it is respectfully submitted that the final rejection be affirmed

Respectfully submitted,



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January 5, 2006

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